

University of Groningen

## Poverty-Related Diseases Attack Simultaneously

Barogui, Yves Thierry; Stienstra, Ymkje

*Published in:*  
American Journal of Tropical Medicine and Hygiene

*DOI:*  
[10.4269/ajtmh.15-0823](https://doi.org/10.4269/ajtmh.15-0823)

**IMPORTANT NOTE:** You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

*Document Version*  
Publisher's PDF, also known as Version of record

*Publication date:*  
2016

[Link to publication in University of Groningen/UMCG research database](#)

*Citation for published version (APA):*  
Barogui, Y. T., & Stienstra, Y. (2016). Poverty-Related Diseases Attack Simultaneously. *American Journal of Tropical Medicine and Hygiene*, 94(5), 939-940. <https://doi.org/10.4269/ajtmh.15-0823>

### Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

### Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

*Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.*

## Images in Clinical Tropical Medicine

### Poverty-Related Diseases Attack Simultaneously

Yves Thierry Barogui and Ymkje Stienstra\*

Centre de Dépistage et de Traitement de l'Ulcère de Buruli de Lalo, Bénin; Department of Internal Medicine/Infectious Diseases, University Medical Center Groningen, University of Groningen, Groningen, The Netherlands

A 10-year-old girl was admitted in Benin (West Africa) with trismus, irritability, and fever. Physical examination revealed clinical findings compatible with tetanus, including a stiff neck, opisthotonus, risus sardonicus, and dysphagia (Figure 1A). On her right arm, she had an ulcer for 2 months. By IS2404 polymerase chain reaction,<sup>1</sup> the ulcer was confirmed as Buruli ulcer, caused by *Mycobacterium ulcerans*, a neglected tropical disease (Figure 1B). The ulcer was treated with a black powder by a local traditional healer. We believe this procedure may have introduced the *Clostridium tetani* spores because 1 year ago, another Buruli ulcer patient presented with tetanus after a similar traditional treatment. The patient was treated in a quiet, dark room with equine antitoxin, metronidazol, and diazepam. She did not receive tetanus vaccinations in the past. The Buruli ulcer was initially treated with wound care and 8 weeks of rifampicin and streptomycin. Nine days after admission, an *Ascaris lumbricoides* crawled out of the patient's nose (Figure 1C). Adult worms tend to migrate in the presence of anesthetics or fever.<sup>2</sup> We suspect her generalized tetanic spasms to have directed this worm toward her nose. Twenty-two days after admission, the generalized tetanic spasms abated. The ascariasis was treated with albendazole.

The patient was discharged 10 months after admission because of a complicated treatment of the Buruli ulcer consisting of multiple debridements and skin grafting. There were no signs of osteomyelitis. This patient unfortunately has permanent functional limitations of her wrist as a consequence of Buruli ulcer. Permanent functional limitations are common in former Buruli ulcer patients, especially in patients with large ulcers.<sup>3</sup>

These three panels illustrate the fact that poverty-related diseases are coendemic and may lead to a synergistic threat to a persons' health.

Received November 15, 2015. Accepted for publication January 9, 2016.

Authors' addresses: Yves Thierry Barogui, Hopital de Lalo, Centre de dépistage et de traitement de l'ulcère de Buruli, Lalo, Benin, E-mail: yvesbaro@yahoo.fr. Ymkje Stienstra, Department of Internal Medicine/Infectious Diseases, University Medical Center Groningen, University of Groningen, Groningen, The Netherlands, E-mail: y.stienstra@umcg.nl.

This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.



FIGURE 1. Poverty-related diseases attack simultaneously; tetanus, buruli ulcer and ascariasis.

\*Address correspondence to Ymkje Stienstra, Department of Internal Medicine/Infectious Diseases, University Medical Center Groningen, University of Groningen, P.O. Box 30001, 9700 RB Groningen, The Netherlands. E-mail: y.stienstra@umcg.nl

## REFERENCES

1. Stienstra Y, van der Werf TS, Guarner J, Raghunathan PL, Spotts Whitney EA, van der Graaf WT, Asamo K, Tappero JW, Ashford DA, King CH, 2003. Analysis of an IS2404-based nested PCR for diagnosis of Buruli ulcer disease in regions of Ghana where the disease is endemic. *J Clin Microbiol* 41: 794–797.
2. Gan RW, Gohil R, Belfield K, Davies P, Daniel M, 2014. Acute airway obstruction by *Ascaris lumbricoides* in a 14-month-old boy. *Int J Pediatr Otorhinolaryngol* 78: 1795–1798.
3. Barogui Y, Johnson RC, van der Werf TS, Sopoh G, Dossou A, Dijkstra PU, Stienstra Y, 2009. Functional limitations after surgical or antibiotic treatment for Buruli ulcer in Benin. *Am J Trop Med Hyg* 81: 82–87.